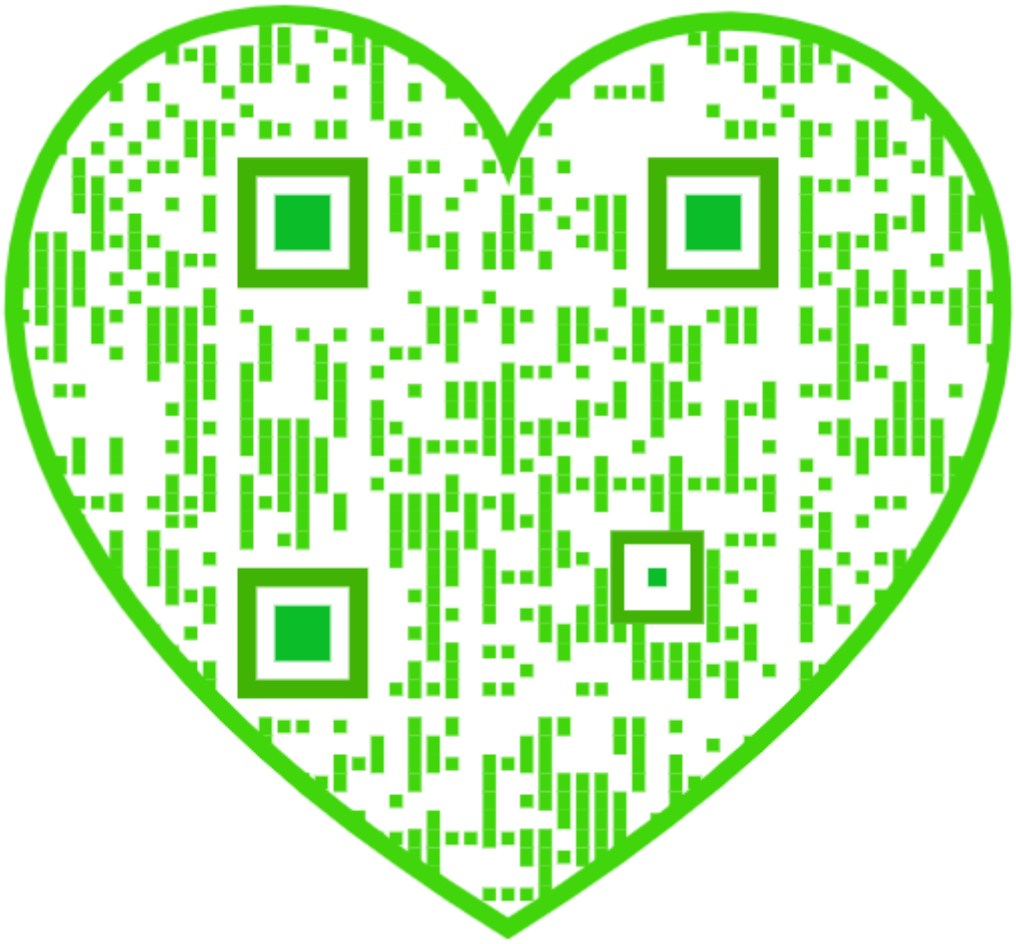
Master in Artificial Intelligence

Data Collection & Preprocessing IV



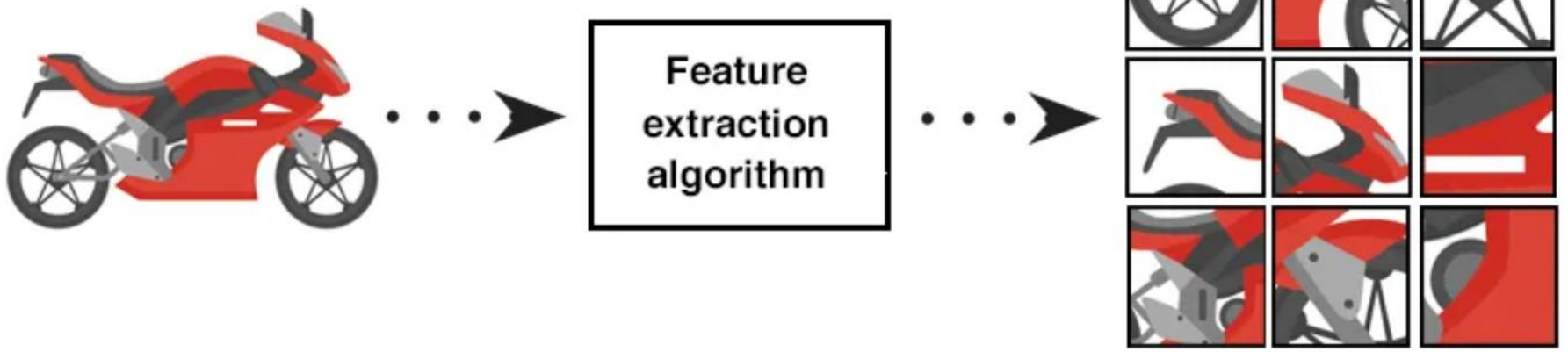
Purpose

The purpose of the section is to help you learn how to collect and preprocess data to become a Successful Artificial Intelligence (AI) Engineer

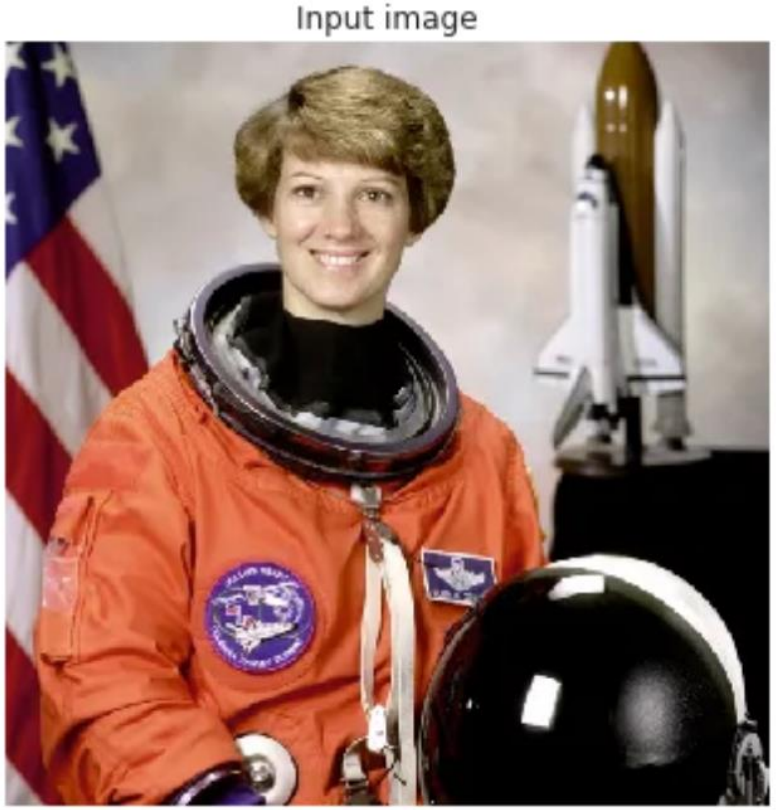
At the end of this lecture, you will learn the following

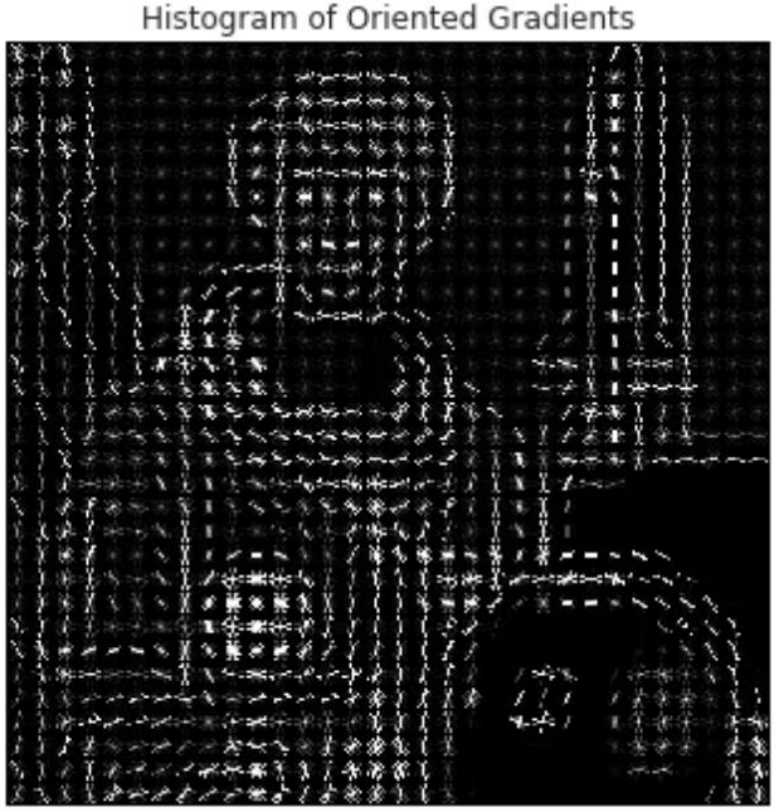
- **How to gather relevant data from various sources, ensure its quality, and preprocess it to make it suitable for analysis and modeling**

Image feature extraction algorithms



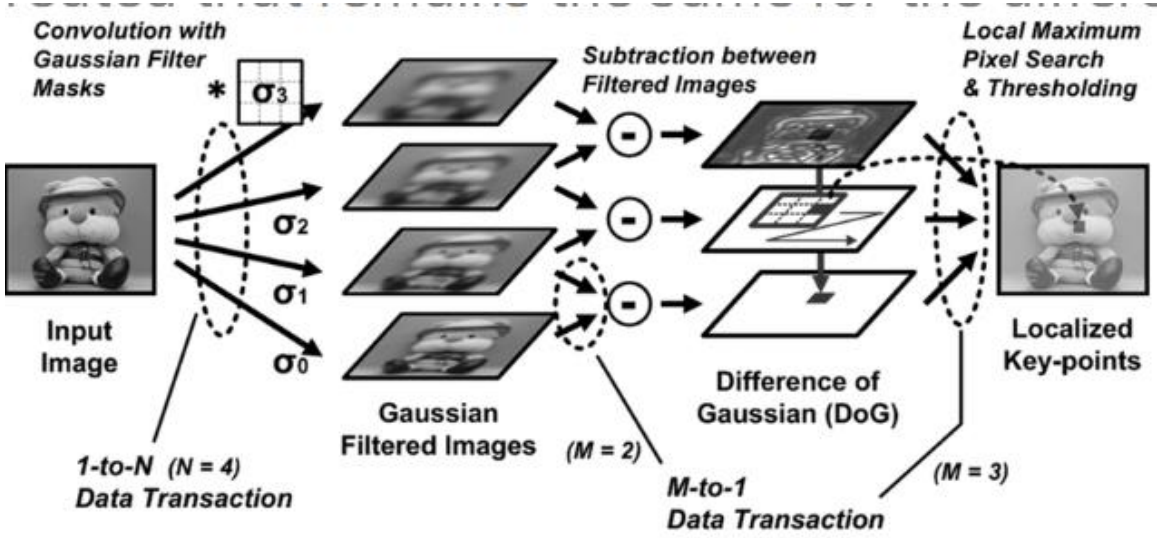
Histogram of Oriented Gradients (HOG)





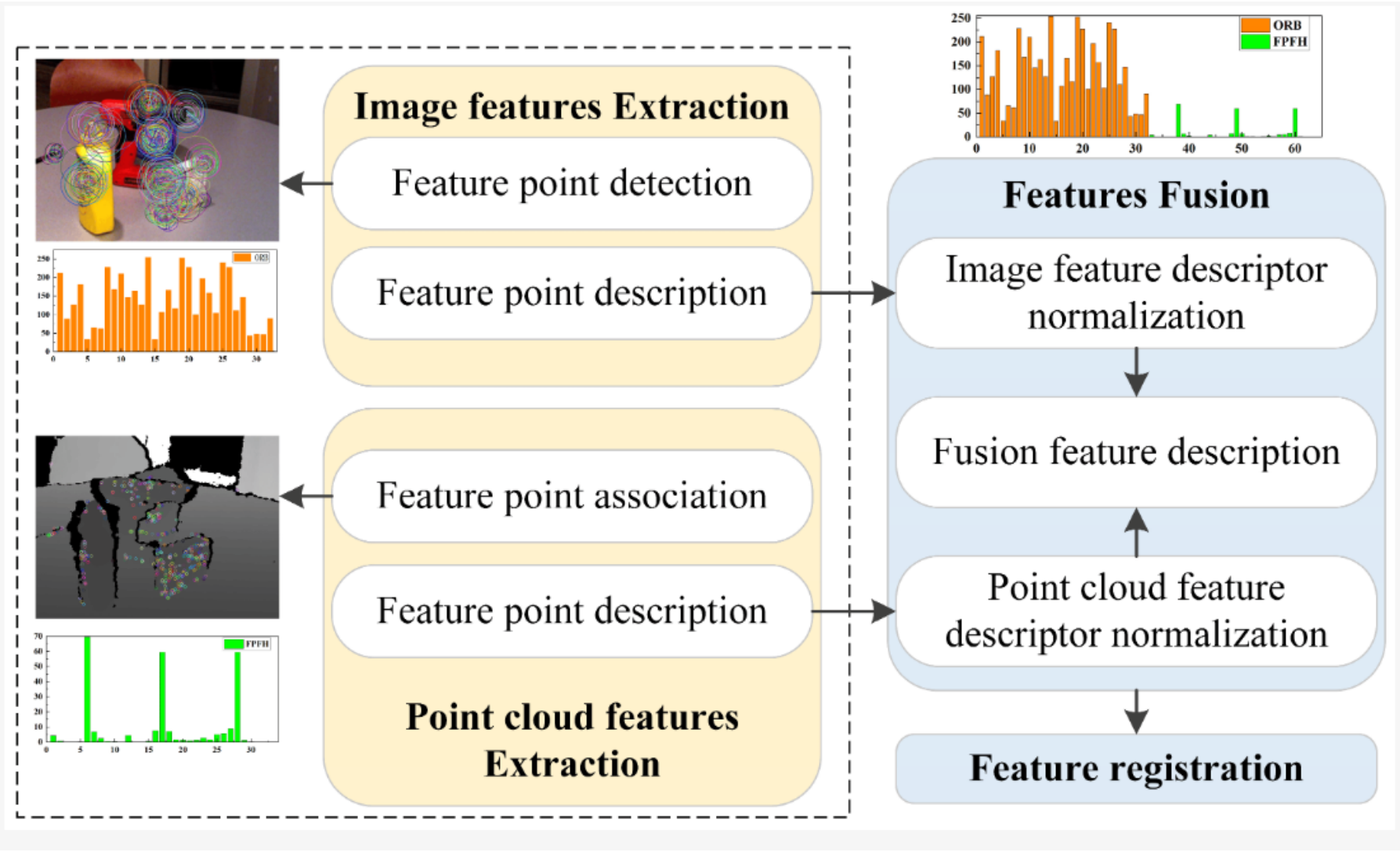
Credit: iq.opengenus.org

Scale-Invariant Feature Transform (SIFT)

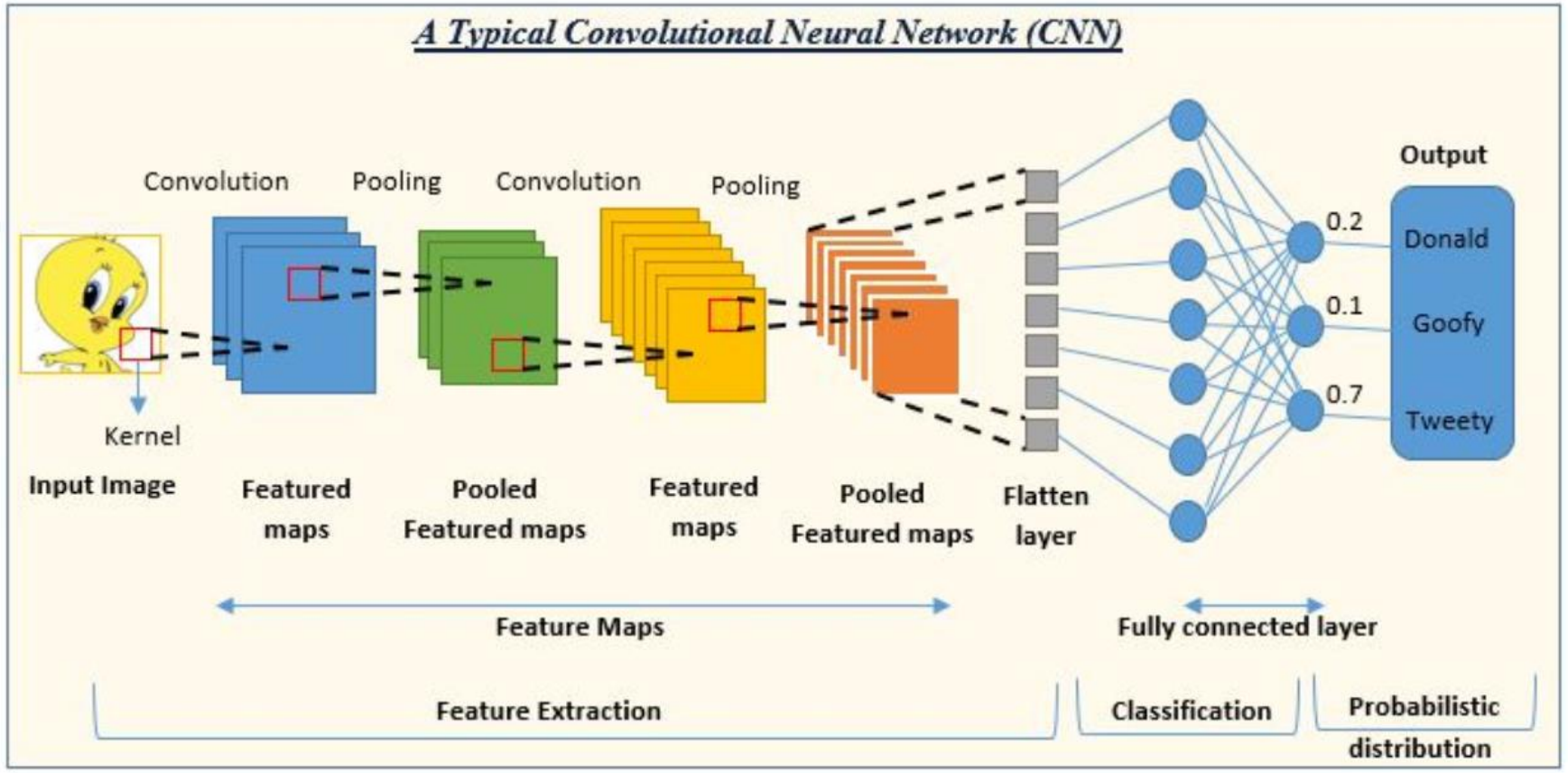


The overall flow of SIFT computation

Speeded-Up Robust Features (SURF)



Convolutional Neural Networks (CNNs)



Local Binary Patterns (LBP)

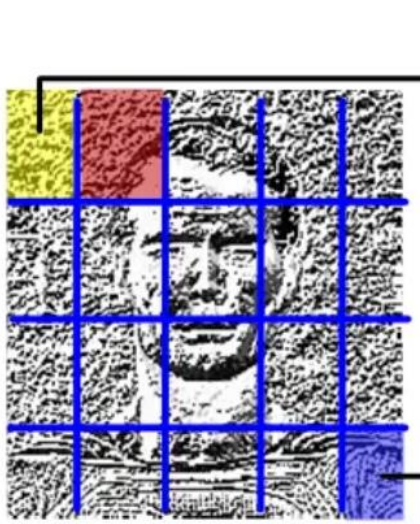
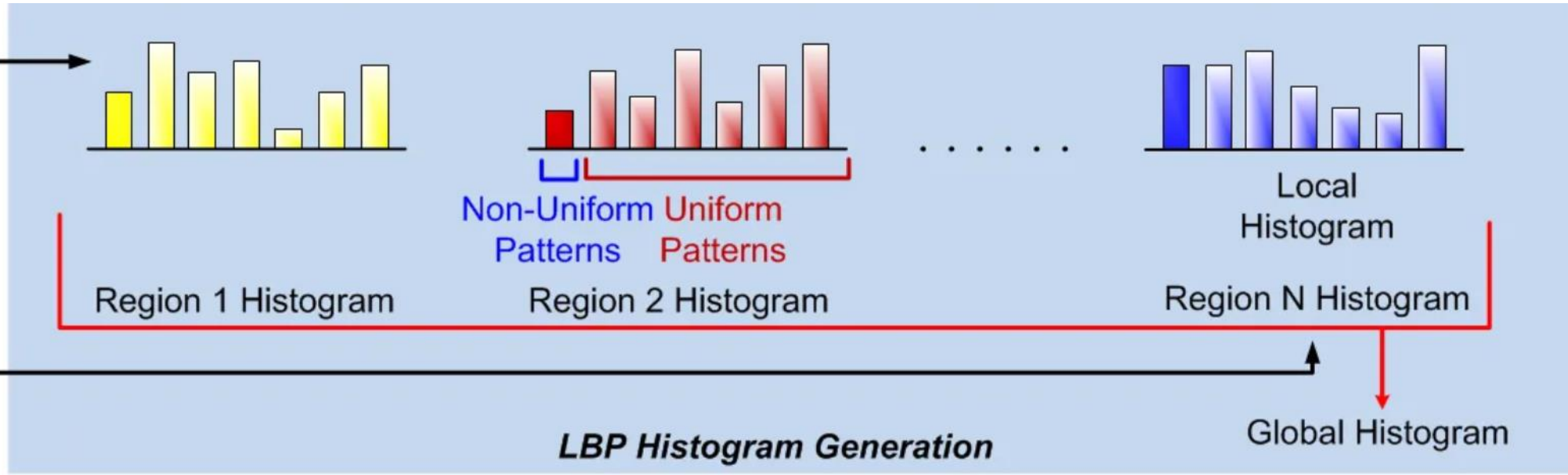
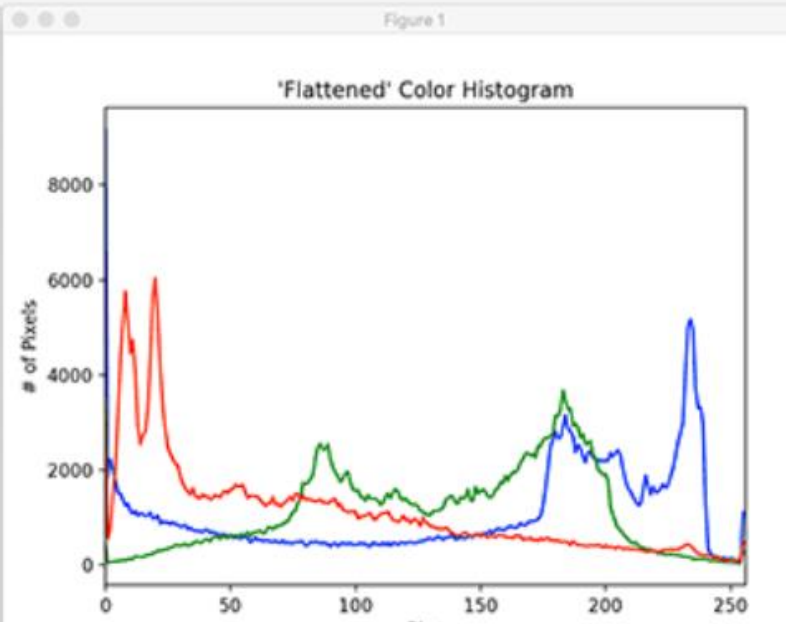


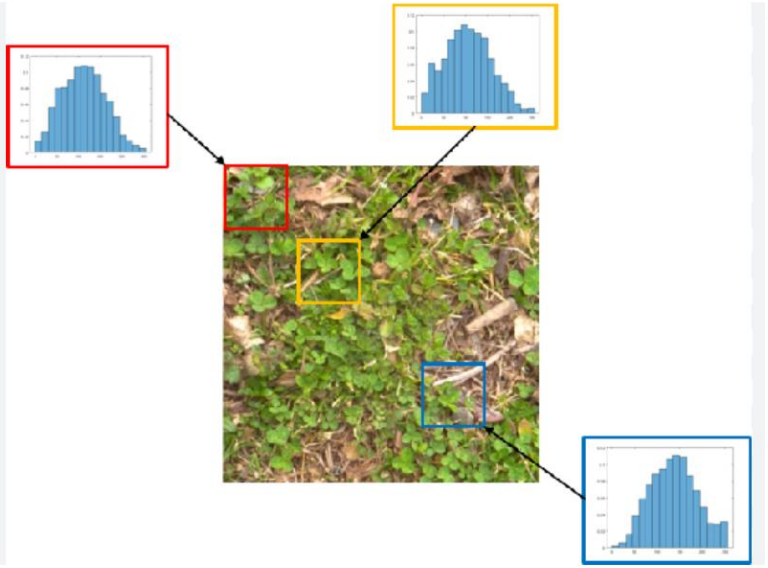
Image assembled with Local Binary Patterns



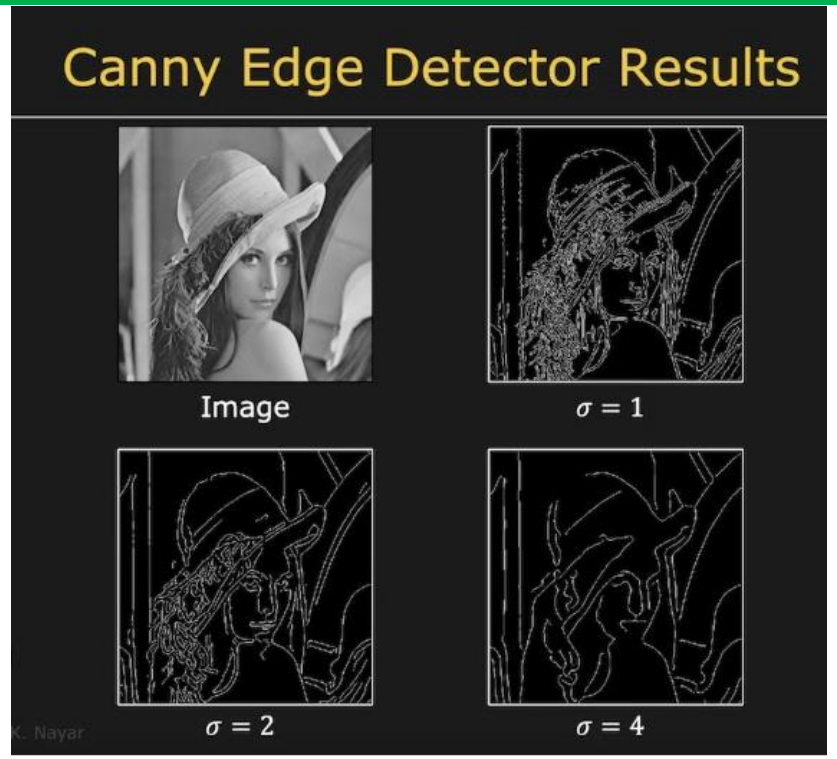
LBP Histogram Generation

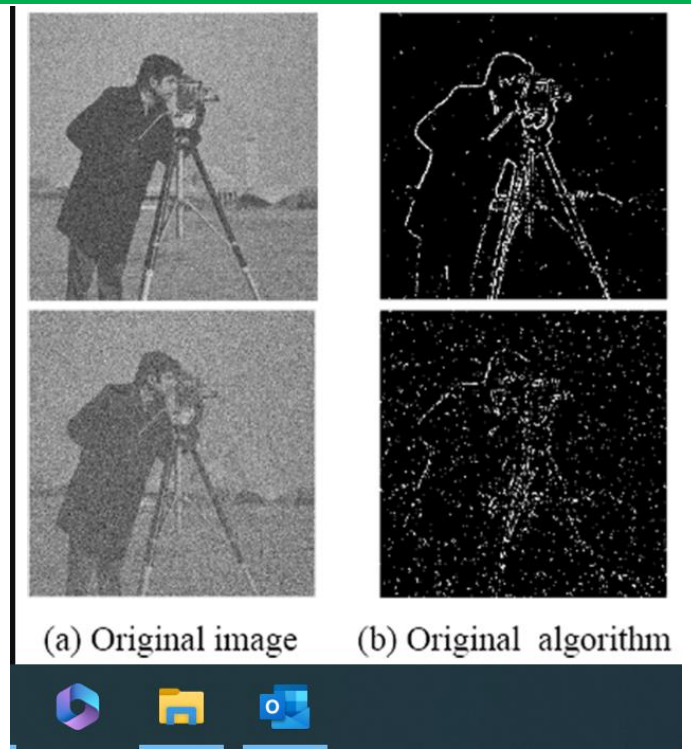
Histogram-based Descriptors

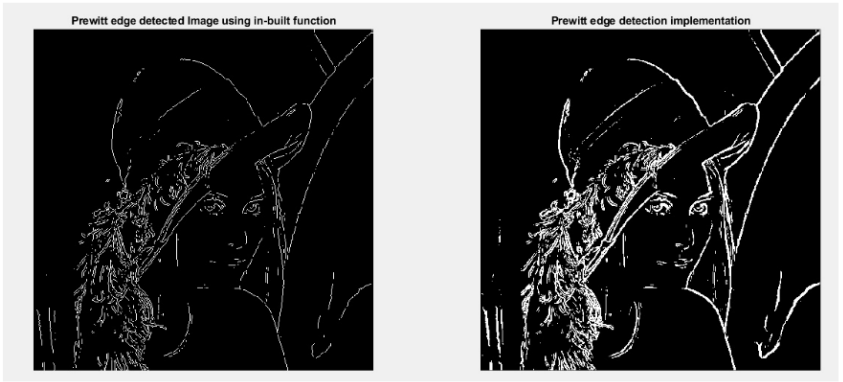




Edge Detection







Corner Detection

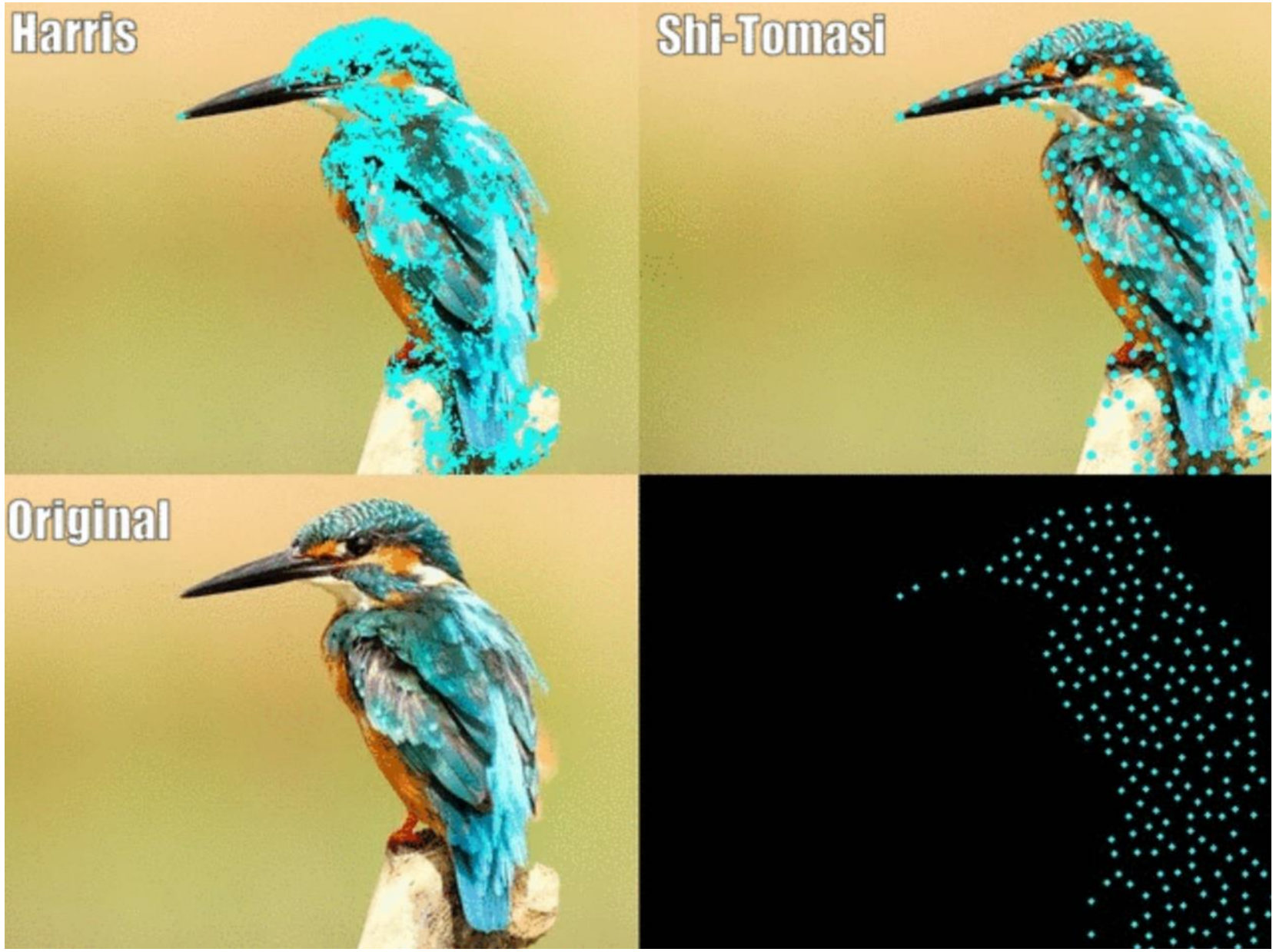
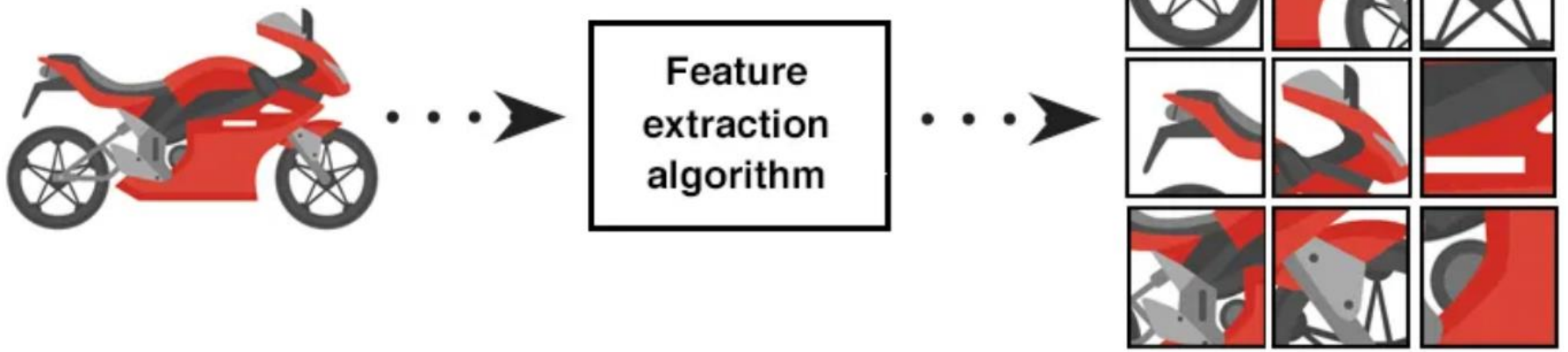
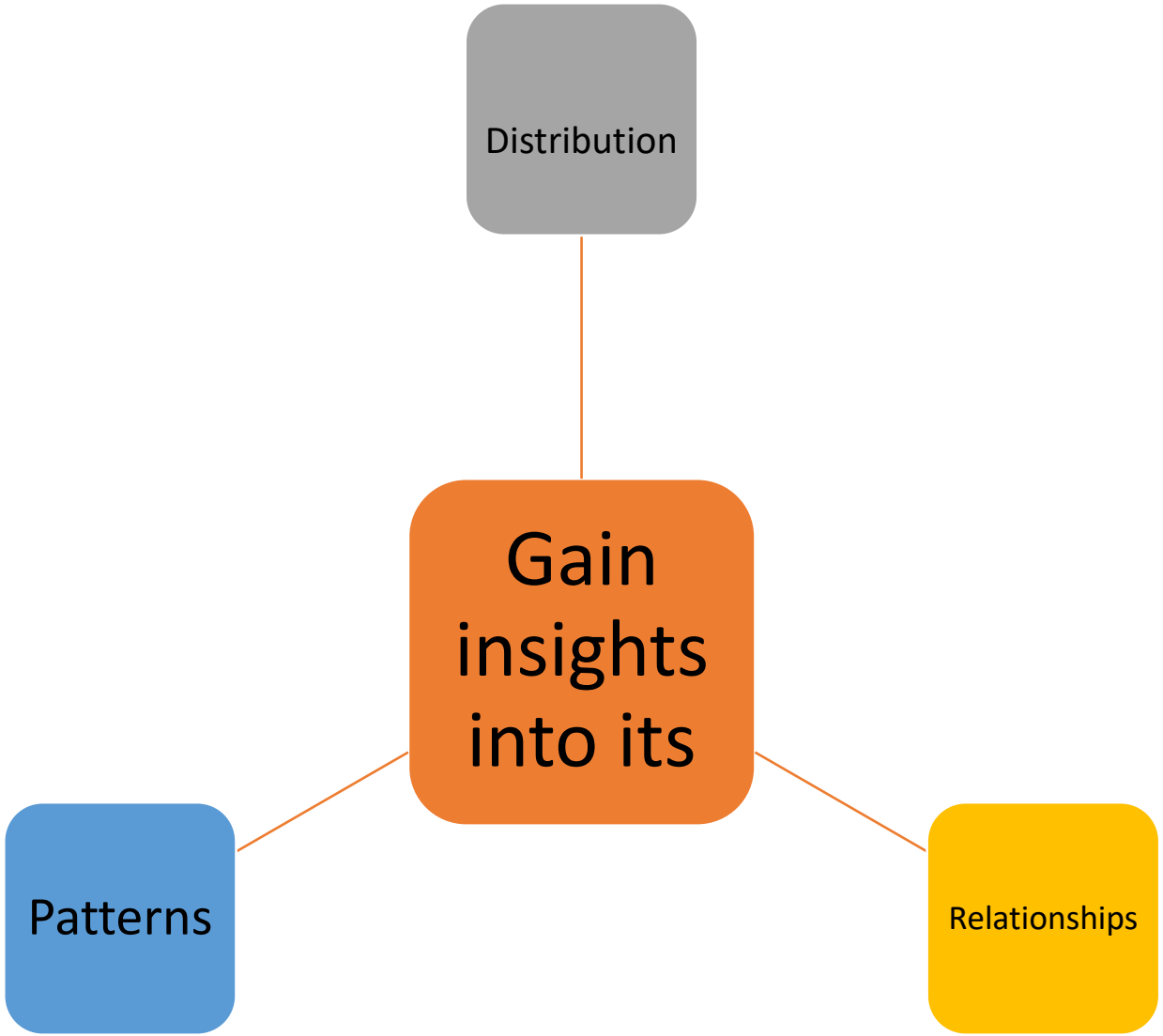


Image feature extraction algorithms



Explore Data



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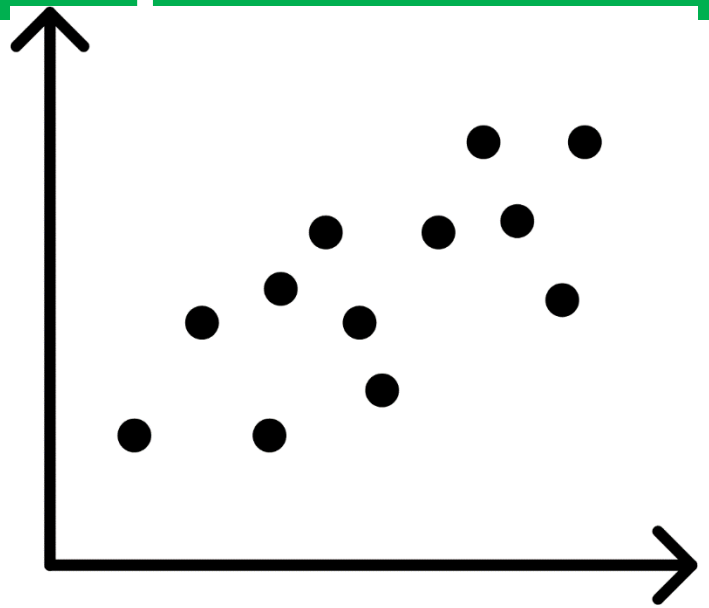
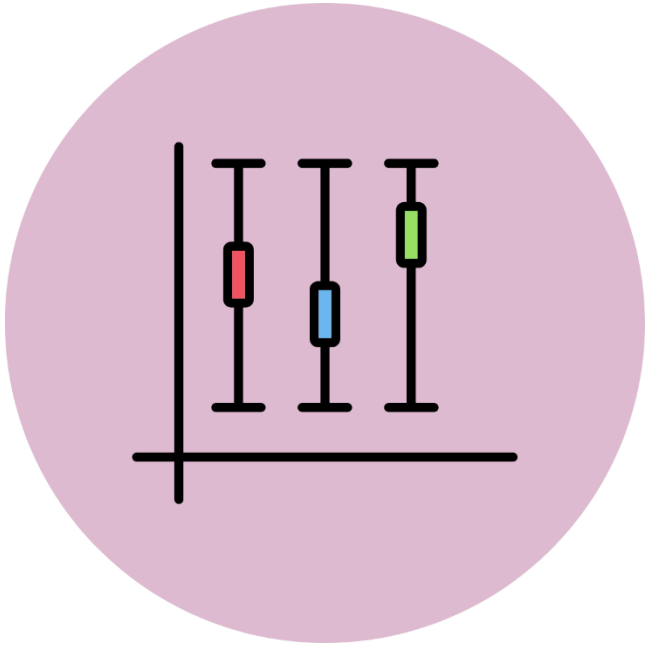
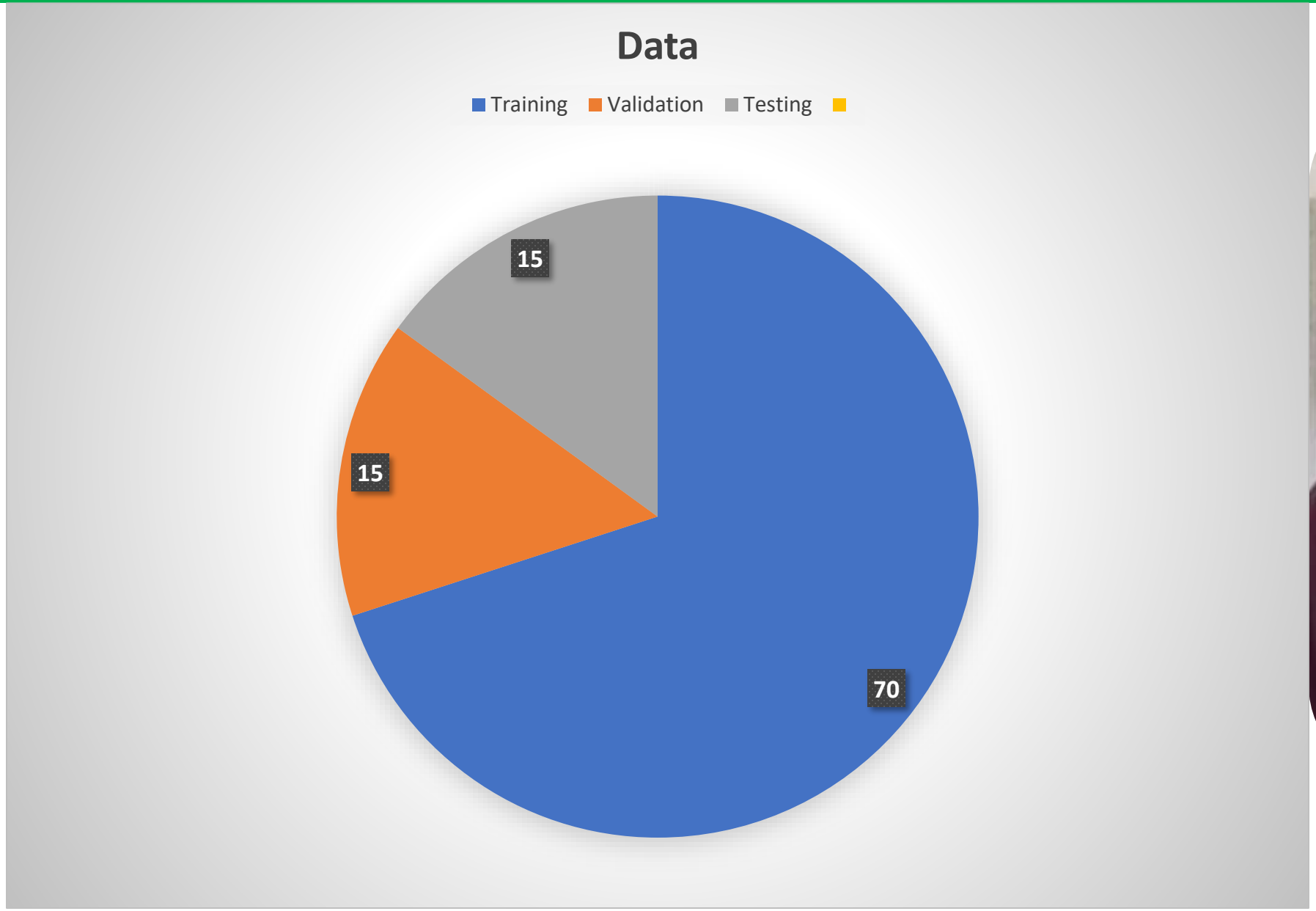




Split Data



How to collect and preprocess data

Gather relevant data

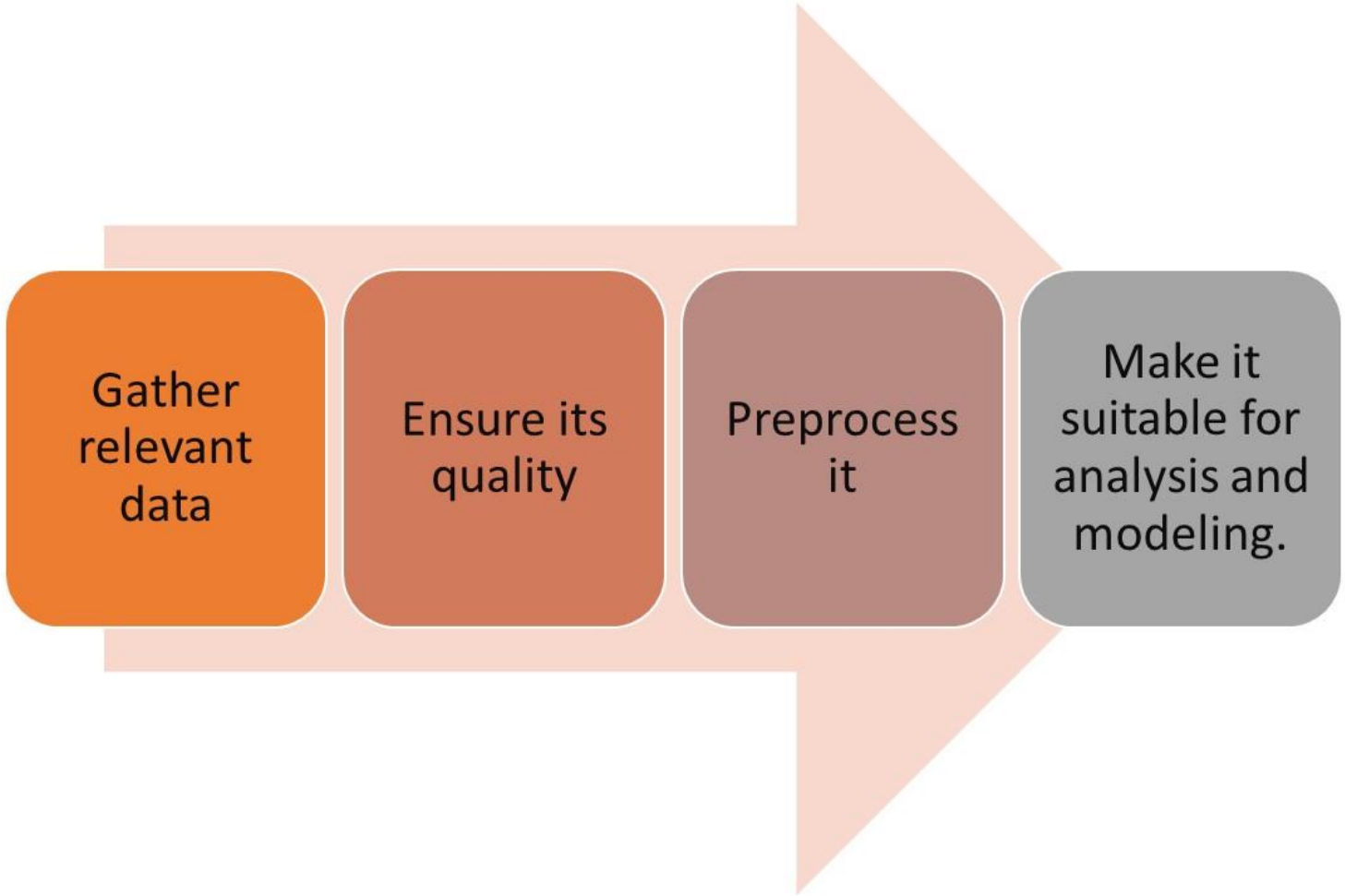
Ensure its quality

Preprocess it

Make it suitable for analysis and modeling.

What is next?

How to collect and preprocess data- An Example



Master in Artificial Intelligence

Data Collection & Preprocessing IV